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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,513	10/16/2001	Sue-Lin Tai		6894

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EXAMINER
LIN, TINA M

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 04/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,513	TAI, SUE-LIN	
	Examiner	Art Unit	
	Tina M Lin	2874	

-- The MAILING DATE of this communication appears on th cover sh et with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 3-20-03 (election)

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-16 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 16 October 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's own admitted prior art and further in view of U.S. Patent 6,542,534 B1 to Svilans. In Applicant's "The Prior Art" section, Applicant discloses a DWDM system with an input and output optical fiber, a biporose pigtail with two holes to secure the input and output fibers, a graded index lens coupled with the pigtail with a signal being transmitted from the input fiber can enter the lens, a filter joined with the other end of the graded index lens with a reflected signal from the filter is transmitted through the lens to the return fiber. [0004 and 0005] Additionally, from the prior art figures, Figures 1A and 1B, it can be observed that the holes of the pigtails are parallel to a center axis. But Applicant fails to disclose the second end of the graded index lens to be orientated at an acute angle to a line perpendicular to an optical axis and However, Svilans discloses a DWDM system comprising of a lens, pigtail fiber and thin film filter. (Figure 1) Svilans further discloses the wavelength select element (64) with the capability of rotating to a certain angle, θ, to set the desired wavelength out of a range of wavelengths.

Therefore, since both Applicant and Svilans are from the same field of endeavor, the purpose of angling the filter in order to gain a desired wavelength, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have tilted the filter in order to obtain the desired wavelength. Furthermore, Applicant fails is mention the holes in the pigtail to be a different distance than the center axis. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the holes in the pigtail as the appropriate position, whether a different distance apart from the center axis or the same, for the optimal results. Lastly, Applicant fails to mention a filter to be a thin film filter. However, Svilans does mention a type of waveguide selective element to be a thin film filter. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a thin film filter at a wavelength selective device in a DWDM system.

Claims 9, 10, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's own admitted prior art and further in view of U.S. Patent 6,542,534 B1 to Svilans and U.S. Patent 6,532,325 B2 to Liu et al. In Applicant's "The Prior Art" section, Applicant discloses a DWDM system with an input and output optical fiber, a biporose pigtail with two holes to secure the input and output fibers, a graded index lens coupled with the pigtail with a signal being transmitted from the input fiber can enter the lens, a filter joined with the other end of the graded index lens with a reflected signal from the filter is transmitted through the lens to the return fiber. [0004 and 0005] Additionally, from the prior art figures, Figures 1A and 1B, it can be observed that the holes of the pigtails are parallel to a center axis. But Applicant fails to disclose measuring an actual center wavelength of the filter, determining the difference between

the actual center wavelength and a desired center wavelength of the filter, and determining an angle of the second graded index fiber relative to an optical axis of the lens, grinding the end of the graded index lens to the determined angle. However, Svilans discloses a DWDM system comprising of a lens, pigtail fiber and thin film filter. (Figure 1) Svilans further discloses positioning wavelength select element (64) with the capability of rotating to a certain angle, θ, to set the desired wavelength out of a range of wavelengths by a optic assembly technician having ordinary skill in the art. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have positioned the filter in order to obtain the desired center wavelength. Since Svilans discloses determining the angle of the second end of the graded lens, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have measured the actual center-wavelength of the filter and determined the difference between the actual and desired centered wavelength of the filter in order to determine the appropriate angle of the second end of the graded index lens. Additionally, Liu et al. discloses grinding and polishing the ferrule to a determined angle. Therefore, it would have been obvious ate the time the invention was made to a person with ordinary skill in the art to have grinded the second end of the determined angle. Furthermore, Applicant fails to mention a filter to be a thin film filter. However, Svilans does mention a type of waveguide selective element to be a thin film filter. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a thin film filter at a wavelength selective device in a DWDM system. Lastly, Applicant fails is mention the holes in the pigtail to be a different distance than the center axis. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art

to have placed the holes in the pigtail as the appropriate position, whether a different distance apart from the center axis or the same, for the optimal results.

Claims 4-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's own admitted prior art and in view of U.S. Patent 6,542,534 B1 to Svilans as applied to claims 1 and 9 above, and further in view of U.S. Patent 6,532,325 B2 to Liu et al. Applicant and Svilans disclose all of the above, but fail to mention a 6-8 degree acute angle between the pigtail end coupled with a graded index lens relative to a line that is perpendicular to a center axis of the pigtail and the graded index lens orientated at another 6-8 degree acute angle relative to a line that is perpendicular to a center axis of the pigtail. However Lui et al. discloses a DWDM system with an angled lens and ferrule with two fibers inside and a filtering device at the end of the system. Applicants disclosed pigtails with two fibers inside of them, comparable to Lui et al.'s ferrule with two fibers inside. Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have angled the pigtail in relation to the lens and to angle the lens in relation to the pigtail. Furthermore, from Figure 1, the angle of the lens and ferrule is obviously acute and a small angle. Lui et al. fails to specifically mention the angle degrees, however, it would have been obvious at the time the invention was made to a person with ordinary skill in the art to have acutely angled the lens and ferrule and vice versa. Also, from Figure 1, the angle is not only acute but small and only slightly tilted, therefore it would have been also obvious at the time the invention was made to a person having ordinary skill in the art to have used an appropriate angle, possibly between 6 and 8 degrees, for optimal results.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References C-E discuss DWDM systems with pigtails fibers, filters and lenses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TML
April 14, 2003

John D. Lee
Primary Examiner